



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

This is the more striking as the ocean is the seat of such complexity and variety that treatment of it is always likely to run off into disconnected detail. The parts of the book that deal most with geography are the accounts of corals and the spreading of life into the depths from the sunny continental shelves where it originated, an expansion here dated from the Cretaceous. Depths of 7,000 to 10,000 meters are almost lifeless, yet pressures in the deeps are not so burdensome to life as has been said. Gases are under no extraordinary compression. There is no spouting when the deep water bottle is opened and change of temperature rather than of pressure accounts for the death of the creatures brought to the surface. We have heard of sea phosphorescence, seen a little even, but Joubin gives us an impression of it that is typically novel. We may read Murray's account of the same facts and learn of the same light projectors with lenses and reflectors that the French author describes but it is only the latter who gives a feeling of the radiance of some of these creatures, which suggests to the eyes of the mind occasional regions of submerged splendor. We can almost see some of these fish dart up with all their lateral spots aglow like tiny ocean liners in the night.

The coral chapter is admirable for any one who once learned Darwin's theory of reefs to find it later denied but found the alternatives somewhat unclear. Our author gives seven theories and leaves the impression that all may have application!

MARK JEFFERSON.

Étude sur les Marées. Par R. E. Godfroy. In series: Documents Scientifiques, Sciences Physiques. Deuxième Expedition Antarctique Française (1908-1910) commandée par le Dr. Jean Charcot. 74 pp. Maps, ills. Masson et Cie., Paris, 1912. 11 x 9.

The present report forms an important contribution in the domain of Physics to the scientific work of the second Charcot expedition. It is a beautifully printed and arranged document of 74 pages and 11 plates, published under the direction of Professor L. Joubin, of the Natural History Museum, and under the auspices of the Minister of Public Instruction.

The region in which the study was made, forming the connection between the Pacific and the Atlantic oceans, is of the greatest interest to oceanographers. As the author points out, the late Sir George Darwin laid great stress on the importance of obtaining systematic and careful observations of the behavior of the tides in this place.

Previous observations are exceedingly meager, and have extended over too short a period to be of value in establishing a theory of tide movements. We have observations by Scott, Courceille-Seneuil, Bruce, and those made in the first Charcot expedition, but none have been over such an extended period as the present. The expedition, which lasted for thirteen months, was directed between the following stations: (1) Amiraute Bay, South Shetlands, (2) Port Foster, Ile Déception, (3) Port Lockroy, Ile Wiencke, (4) Port Circoncision, Ile Petermann, (5) Marguerite Bay, Ile Jenny. The report is arranged as follows: A description of the tide gauges used, the installation of the apparatus and the difficulties overcome, the method of taking observations, the interpretation of the curves taken with the tide gauges, the method of analyzing the curves, the more important harmonic constants for the various stations, and a set of complete tables of results. Some very fine curves and diagrams are given in the illustrated section at the end of the work, which are arranged so as to bring out in a helpful manner a comparison of the various stations.

The tide gauges used were of elaborate pattern as compared with most work of this kind, and the author's devices for overcoming the low temperature were interesting. The gauge most used was designed by Pavré, and made by Richard, but an ordinary Richard gauge was also used to check the results. The instruments are said to have worked perfectly.

The harmonic analysis of the curves was carried out by the well-known method of Kelvin.

The relation of meteorological effects to tide changes was studied, and it was proved to the entire satisfaction of the author that there is a decided barometric effect on the surface of the sea. This is of interest in view of the

report of the Committee of the British Association in 1896 to the contrary. The author finds a movement of 1 mm. in the barometric column to correspond immediately with an inverse movement of the level of the sea, amounting to 1.45 cms.

The author finds the periods of the diurnal and semi-diurnal tides very irregular. The observations show that the diurnal tide is propagated from East to West through Drake Strait.

Although very irregular, the mean value shows a period for the diurnal tide as follows:—At Orange Bay 44 hours, in Scotia Bay 14.5 hours, and 5 hours at Port Foster and Port Circoncision. The same values for the semi-diurnal tide are, 29 hours at Orange Bay, 25 hours at Scotia Bay, 48 hours at Port Foster, and 104 hours at Port Circoncision.

In conclusion, the author emphasizes the great irregularity of the tides in this region, which do not satisfy either the old ideas of Whewell, or those more recent of Rollin A. Harris. His study shows the law of the tides to be very complex and troublesome, although the situation offers a maximum number of the conditions for the theory.

H. T. BARNES,

McGill University, Montreal.

METEOROLOGY AND CLIMATOLOGY

Climate and Weather. By H. N. Dickson. Series: Home University Library. 256 pp. Index. Williams & Norgate, London, 1913 (?). 1s. 7 x 4½.

Not until the ninth chapter does the work become popular. This section entitled "Climate and Vegetation," and the next and last chapter, "Climate and Man," will perhaps make the strongest appeal to the interest of the teacher of elementary geography or to the layman.

The division of the Earth into climatic regions (p. 137) is somewhat different from the usual. It is based upon the wind system including the following divisions: 1. The equatorial belt; 2. The trade-wind belts, north and south; 3. The high-pressure belts, north and south; 4. The west-wind belts, north and south; 5. The circumpolar caps; 6. The monsoon region of south-eastern and eastern Asia; 7. The Tropical; 8. The Sub-Tropical.

The discussion of the monsoon region introduces some interpretations different from those generally presented on the subject. The summary, p. 152, indicates three seasons: "Cold weather, hot weather, rainy."

EUGENE VAN CLEEF.

Nouvelle Méthode de Prévision du Temps. Par Gabriel Guilbert. Avec une préface par Bernard Brunhes. xxxviii and 343 pp. Maps. Gauthier-Villars, Paris, 1909. 10 x 6½.

In April, 1891, Gabriel Guilbert explained to the French Meteorological Society his new practical rules for weather prediction. In 1905 a competition in weather forecasting was held at Liège, and Guilbert received the first prize. The present volume gives the essentials of the new system, with a large number of examples. The essential thing is the isobaric chart of tomorrow. Given the isobars, the normal wind which is to be expected under the given isobaric system enables the forecaster to judge how far, and in what direction, the cyclone (the principal factor in weather-making) may be expected to move, and whether the depression is likely to deepen or fill up. When the winds are not normal, in direction or velocity, the author considers this an indication of the presence of some external influence. The system is then likely to move in the direction of least resistance, indicated by the deviation of the (actual) winds from the normal.

This whole new scheme has attracted considerable attention among meteorologists the world over, and it is safe to say that since the publication of Guilbert's book many forecasters have been putting his ideas into practice. The volume is hardly one that will appeal to the general student of meteorology, but those who want to be fully informed regarding the progress of the science in all its branches will not wish to be ignorant of it. The Preface is by